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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/364,788	07/30/1999	BENJAMIN N. ELDRIDGE	P84-US	9878

7590 09/12/2003

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EXAMINER

NGUYEN, SON V

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/364,788

Applicant(s)

Eldridge et al.

Examiner

Son Nguyen

Art Unit

2839



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 5, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 58-75 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 58-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2839

DETAILED ACTION

Request for Continued Examination

1. The request filed on 8/5/2003 for a Request for Continued Examination (RCE) based on the application No. 09/364,788 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 58-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art in figures 1A-1B (hereinafter APA') in view of Grabbe et al. (US 5,152,695) and further in view of Mathieu et al. (US 6,268,015).

4. Regarding claims 58-64, 66-73 and 75, APA' discloses an electronic component [figure 1B] comprising:

- a substrate [not label] having a conductive area [122] connected to a terminal, and a semiconductor integrate circuit [120];

Art Unit: 2839

- a passivation layer [121] disposed on a surface of the substrate, wherein the passivation layer having an opening at the conductive area of the substrate;

- at least one electrically conductive layer [123] disposed on the passivation layer and on the conductive area;

- a plurality of resilient, conductive contact structure [110, figure 1A] each comprising a base portion [not label] electrically coupled through the electrically conductive layer to the conductive area [figure 1B], a tip portion [181-184] displaced away from the substrate and the conductive area, and a beam portion [127] having a width and length integrally connected between the base and the tip portion;

- the tip portion comprises a pointed end [185]

- the contact structure comprises a plurality of metal layers [125, 126];

- a second substrate including a conductive contact element [not shown] in physical contact with the tip portion [185] of the contact structure [110];

APA' discloses the instant claimed invention except for the width of the beam portion decreases along the length from the base to the tip portion, the tip portion comprises a beveled peripheral edge.

Grabbe et al. discloses a contact structure [22, figure 4] comprising a tapered beam portion having a width decreases along a length of the beam portion from a base [38] to a tip portion [34], wherein the tip portion comprises a beveled peripheral edge.

Art Unit: 2839

It would have been obvious to one having ordinary skill in the art at the time invention was made to modify the contact structure of APA' to provide the tapered beam portion as taught by Grabbe et al. in order to provide a substantially constant deflection and stresses along the beam portion and to save the material.

APA' in view of Grabbe et al. discloses the instant claimed invention except to show a connecting layer coupling the conductive area to internal circuitry within the electronic component.

Mathieu et al. discloses an electronic component [figure 6] comprising a connecting layer [not labeled] coupling a conductive area [110] to internal circuitry [120] within the electronic component.

It would have been obvious to one having ordinary skill in the art at the time invention was made to modify the electronic component of APA' to provide the connecting layer as taught by Mathieu et al. in order to facilitate the establishing a desired circuit.

5. Regarding claims 65 and 74, Grabbe et al. discloses the instant claimed invention including a pitch of two adjacent contact elements having a range of 20-12- microns [column 8, lines 44-45]. However, Grabbe et al. does not disclose the pitch having a range of 2.5-2000 microns. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the pitch range of the two adjacent element contacts of Grabbe et al. to have a range of 2.5-2000 microns in order to accommodate with a fine corresponding pitch of mating contacts of the another substrate, since it has been held that where the general conditions of a claim are

Art Unit: 2839

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Response to Arguments

6. Applicant's arguments with respect to claims 58-75 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son Nguyen whose telephone number is (703) 308-8745.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild, can be reach on (703) 308-2710. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1782.

sn

September 6, 2003


SON V. NGUYEN
PATENT EXAMINER